

WHAT IS CLAIMED IS:

1. A static electricity eliminating apparatus comprising;

(A) a first electrically conductive piece and a second electrically conductive piece which are disposed so as to face each other through an insulating layer, and

(B) a discharge means having one end electrically connected to the first electrically conductive piece and other end electrically connected to the second electrically conductive piece,

wherein a charge electrostatically induced in the first electrically conductive piece and the second electrically conductive piece due to a contact of a static-electricity-charged object with the first electrically conductive piece is accumulated between the first electrically conductive piece and the second electrically conductive piece by dielectric polarization, and then, the charge is discharged with the discharge means in a state where the first electrically conductive piece and the second electrically conductive piece are not grounded.

2. The static electricity eliminating apparatus according to claim 1, in which the discharge means is constituted of a varistor.

3. The static electricity eliminating apparatus according to claim 1, in which the static electricity eliminating apparatus further has a resistor connected to the discharge means in series, an analyzing means for analyzing a voltage between the two ends of the resistor and a display means for displaying an analysis result.

4. The static electricity eliminating apparatus according to claim 1, in which the first electrically

conductive piece is formed of a hollow first pipe and the second electrically conductive piece is formed of a second pipe or a rod-shaped material arranged inside the first electrically conductive piece and fixed to the first electrically conductive piece with the insulating layer.

5. The static electricity eliminating apparatus according to claim 1, in which the insulating layer is formed of a flat plate material, the first electrically conductive piece is disposed on one surface of the insulating layer, and the second electrically conductive piece is disposed on the other surface of the insulating layer.

6. The static electricity eliminating apparatus according to claim 5, in which a through-hole portion is formed through the insulating layer, and the discharge means is arranged in the through-hole portion.

7. The static electricity eliminating apparatus according to claim 1, in which the first electrically conductive piece is disposed on one surface of the insulating layer, the second electrically conductive piece is disposed on the other surface of the insulating layer, a through-hole portion is formed through the insulating layer, the discharge means is disposed on the other surface side of the insulating layer, and one end of the discharge means is electrically connected to the first electrically conductive piece through the through-hole portion.

8. The static electricity eliminating apparatus according to claim 1, in which the static electricity eliminating apparatus further has a second discharge means having one end electrically connected to the first electrically conductive piece and the other end

electrically connected to the second electrically conductive piece,

wherein a charge electrostatically induced in the first electrically conductive piece and the second electrically conductive piece due to a contact of a static-electricity-charged object with the first electrically conductive piece is accumulated between the first electrically conductive piece and the second electrically conductive piece by dielectric polarization, and then, the charge is discharged with the discharge means and the second discharge means in a state where the first electrically conductive piece and the second electrically conductive piece are not grounded.

9. The static electricity eliminating apparatus according to claim 8, in which the static electricity eliminating apparatus further has a resistor connected to the discharge means or the second discharge means in series, an analyzing means for analyzing a voltage between the two ends of the resistor and a display means for displaying an analysis result.

10. The static electricity eliminating apparatus according to claim 8, in which the discharge means is constituted of a first varistor, the second discharge means is constituted of a second varistor and a discharge tube connected in series, and the discharge start voltage of the second discharge means is lower than the discharge start voltage of the discharge means.

11. The static electricity eliminating apparatus according to claim 8, in which the first electrically conductive piece is formed of a hollow first pipe and the second electrically conductive piece is formed of a second pipe or rod-shaped material arranged inside the first electrically conductive piece and fixed to the first electrically conductive piece with the insulating

layer.

12. The static electricity eliminating apparatus according to claim 11, in which a window portion for observing the light emission state of the discharge tube constituting the second discharge means is provided in the first electrically conductive piece or in the first electrically conductive piece and the second electrically conductive piece.

13. The static electricity eliminating apparatus according to claim 8, in which the insulating layer is formed of a flat plate material, the first electrically conductive piece is disposed on one surface of the insulating layer, and the second electrically conductive piece is disposed on the other surface of the insulating layer.

14. The static electricity eliminating apparatus according to claim 13, in which a through-hole portion is formed through the insulating layer and the discharge means and the second discharge means are arranged in the through-hole portion.

15. The static electricity eliminating apparatus according to claim 8, in which the first electrically conductive piece is disposed on one surface of the insulating layer, the second electrically conductive piece is disposed on the other surface of the insulating layer, a through-hole portion is formed through the insulating layer, the discharge means and the second discharge means are disposed on the other surface side of the insulating layer, and one end of each of the discharge means and the second discharge means is electrically connected to the first electrically conductive piece through the through-hole portion.

16. A static electricity eliminating method with a static electricity eliminating apparatus comprising;

(A) a first electrically conductive piece and a second electrically conductive piece which are disposed so as to face each other through an insulating layer, and

(B) a discharge means having one end electrically connected to the first electrically conductive piece and other end electrically connected to the second electrically conductive piece,

said method comprising;

accumulating a charge, which is electrostatically induced in the first electrically conductive piece and the second electrically conductive piece due to a contact of a static-electricity-charged object with the first electrically conductive piece, between the first electrically conductive piece and the second electrically conductive piece by dielectric polarization, and then,

discharging the charge with the discharge means in a state where the first electrically conductive piece and the second electrically conductive piece are not grounded.

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